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*On the DECLINE of SHIPBUILDING on the THAMES.*

*By* JOHN GLOVER, Esq.

[Read before Section F, British Association, at Exeter, August, 1869.]

ANY one who has recently travelled up or down the Thames, between the Victoria Docks and Limehouse, must have been struck by the fact which the title of this paper assumes. The great ship-building yards are idle. We see most extensive "plants," with enormous capacity for work, which quite recently afforded remunerative employment to a large population, and made the river vocal with the busy hum of their industry, but scarcely any work is going on. There is a "horrid sound of silence;" the "yards" are deserted, and, like a curse, idleness has settled on the district, with sickness, poverty, bankruptcies, and pauperism in its train. The causes of a fact so painful cannot be uninteresting to this Section of the British Association.

Of the fact itself, I shall not trouble the Section with any proof. I have said that it can be seen. Moreover, no accurate statistical expression of it is possible. The public returns tell us how many ships are built and registered in England every year. They do not tell us how many are built on each river. They do not include tonnage which is built but not registered, of which (in steam tonnage especially) the quantity is often large. For these reasons the public records do not enable any accurate statistical comparison between river and river. Unhappily the statistical proof of the fact is needless. The silent yards, the increased pauperism, the destitution, the able-bodied skilled-labour emigration from the district, which has taken place this year, are proofs of the fact more conclusive and affecting than statistics could supply.

There are some obvious causes which might occasion the failure of any industry which my inquiries assure me have not produced the effect under consideration. I will mention some of these. The decline of shipbuilding on the Thames has not arisen—

1. From any inferiority in the skill of its labourers. For a long period their reputation was unrivalled, and there is no reason whatever for supposing that their skill has undergone any diminution. On some of the northern rivers work is now produced which is not inferior to Thames work, but on none is it excelled.

2. Neither, as certainly, can the decline of shipbuilding on the Thames be attributed to inadequacy of capital among the builders.

The enormous size of some of the establishments, and the completeness of their economical arrangements, are conclusive evidence on this point.

3. From a perusal of Table I, which is annexed, it is apparent that the decline is not explained by the slightly higher cost of materials on the Thames compared with other rivers.\* In the following articles, there is no appreciable difference between the price on the Thames, the Wear, and the Clyde:—Teake, yellow pine, canvas, rope, yellow metal sheathing, and nails. The price of angle iron is the same on the Clyde as on the Thames, but rather cheaper on the Wear. Iron plates are slightly dearer on the Clyde than on the Thames, the Wear being cheaper than either. Elm timber is marked higher on the Thames than on either the Clyde or Wear, but there is no reason why it should be so, and if the demand for the article on the Thames were large enough it could be sold there as cheaply as on the northern rivers. Anchors and chains are not manufactured on the Thames to any large extent. They are cheapest on the Wear, 6*d.* per cwt. dearer on the Clyde, and 1*s.* 6*d.* per cwt. dearer on the Thames. The price quoted is for the whole quantity of anchors and chains that a ship requires, technically called an outfit. The greatest difference shown in the table is in the price of coal, varying from 2*s.* 6*d.* per ton to 15*s.* on the worst kind, and from 4*s.* to 20*s.* on the best. The price on the Clyde is much lower than on the Thames, but higher than on the Wear. Notwithstanding the unfavourable contrast borne by the Thames on the article of coal, the general result of this comparison of the price of materials on the different rivers, satisfies me that this is inadequate as an explanation of the destruction of an industry. These differences are disadvantages only, against which it would be easy to conceive compensating advantages.

I conclude, therefore, that neither the quality of its work, nor inadequacy of capital, nor the rather higher cost of materials on the Thames, explain the decline in its shipbuilding trade. I will now show to what I think it is to be attributed.

1. The most important and conclusive explanation I have met with is supplied by the annexed Table II, by which is shown the daily rate of wages on the Thames, Wear, and Clyde, of carpenters, joiners, platers, caulkers, rivetters, painters, riggers, sailmakers, boilermakers, engineers, turners, and pattern-workers. The cost of one day's labour from these combined crafts is, on the Thames, 72*s.*; on the Clyde, 58*s.* 8*d.*; on the Wear 55*s.* 8*d.* The Thames price is 22·72 per cent. higher than the Clyde, and 29·34 per cent. higher

\* I have taken the prices of materials and wages on the Wear and on the Clyde, as fairly indicating the terms on which other English and Scotch rivers compete with the Thames.

than the Wear. I submit to the Section that this single fact is an explanation of the decline of shipbuilding on the Thames so conclusive as rather to suggest a demand for another explanation, viz., how the trade was carried on until recent time with such a disadvantage. The answer is simple. It was not a profitable trade. One after another the builders failed, and some more than once, and their estates usually yielded very small dividends. Moreover, it was what I may call a hot-house trade. The buyers were not individuals spending their own money, looking for the cheapest market, and taking the benefit of competition therein; but, on the contrary, they were chiefly Governments (British and foreign) and large companies, often highly subsidised and rich, with whom price, and an adequate return to be earned thereon, were not primary considerations. While the Thames workmanship was, or was thought to be, unrivalled, the buyers I have described contracted almost exclusively with Thames builders, who obtained high prices in the absence of competition from other rivers, and so far were helped to pay such wages as Table II shows. But, as already named, Thames workmanship can now be equalled both on the Clyde and Mersey, on the Tyne and Wear; our own and other Governments and the large companies no longer restrict their contracts to the Thames; in such competition the lowest price wins. The Thames has lost—lost inevitably—with its labour rate 22·72 per cent. above the Clyde, and 29·34 per cent. above the Wear. There is good reason for believing, moreover, that this difference in the rate of wages is aggravated by the extent to which work is done by the “piece” in the northern yards. Iron-work on the Clyde is nearly all so done, and I am informed that on the Wear nine-tenths of it is so done.

2. I have made inquiry as to the establishment charges on the Thames compared with those on northern rivers. By these I mean salaries of foremen, storekeepers, clerks, draughtsmen, and managers; also rents, taxes, and other general charges incident to the business of shipbuilding. I can produce no figures on this point; but a competent authority on the Thames, who is well acquainted with the conditions of shipbuilding in the north, assures me that it would not be an unreasonable estimate to reckon the establishment charges on the Thames at double those on the northern rivers. If this estimate is even half true, it is a further explanation of the decline of shipbuilding on the Thames.

3. Some further disadvantage to this industry on the Thames has accrued through the comparative disuse of wood in the construction of ships. Formerly all vessels were built of wood. Coal and iron, and the cost thereof, were not then very important items in their construction. Now, a steamer built of wood is a rarity, and

nearly all large sailing vessels are built either entirely of iron, or of iron in the interior with a wooden skin. These last are called "composite" vessels. It is apparent how the disuse of wood, and the greatly increased use of iron, favours the rivers in close proximity to the banks of which iron is manufactured, and where coal—so important an item in all work with iron—is also found proximate and therefore cheap.

4. The immense increase in steam vessels has further tended to the disadvantage of the Thames. A steamer is so many tons of iron plus coal and labour. Thus the recent demand has been for that in the supply of which the northern rivers had the greatest advantage over the Thames; as we have seen, they have iron rather cheaper, coal and labour much cheaper. Moreover, the use of steam is not now limited to mail packets and passenger boats. All kinds of ordinary cargo—such as coal, iron, grain, and wood—are now largely carried by steamers. For such purposes the high finish of Thames engine makers is not necessary. Adequate strength for the hard work to be done is the quality desiderated. This is the class of steamer which has increased so largely, and the Mersey, Clyde, Tyne, and Wear have supplied them, of quality quite adequate to their work, at 15 to 30 per cent. less than they could have been obtained for on the Thames. These are the reasons why the Thames yards are idle, and that orders very naturally travel northward.

With regard to the chief reason, it is most natural to ask why Thames wages did not fall with the decline of trade until such a level had been reached as would have enabled Thames masters to compete successfully with other rivers. The "Unions" seem to have decreed otherwise. They fixed a limit below which wages ought not, in their opinion, to fall. They succeeded thus far. Wages remain nominally high. But there is no work: the trade is destroyed. It is perhaps an extreme illustration of what happens when the men become masters.

## APPENDIX.

I.—*Prices of the undermentioned Materials on the Thames, the Wear, and the Clyde in 1869.*

|                                   | Thames.      | Wear.          | Clyde.          |
|-----------------------------------|--------------|----------------|-----------------|
|                                   | £ s. d.      | £ s. d.        | £ s. d.         |
| Angle iron ..... per ton          | 7 5 —        | 6 17 6         | 7 5 —           |
| Plates ..... "                    | 8 5 —        | 7 17 6         | 8 10 —          |
| Rivets ..... "                    | 12 10 —      | 10 2 6         | 10 — —          |
| Teake ..... per load              | 12 — —       | 12 10 —        | 12 10 —         |
| Elm ..... "                       | 6 — —        | 4 10 —         | 5 5 —           |
| Yellow pine ..... "               | 3 15 —       | 3 15 —         | 3 15 —          |
| " metal ..... per lb.             | — — 7        | — — 7          | — — 7           |
| Canvas ..... per yard             | — 1 6        | — 1 6          | — 1 6           |
| Rope ..... per cwt.               | 2 — —        | 1 18 —         | 2 — —           |
| Coal ..... per ton                | 15s. to 20s. | 2s. 6d. to 4s. | 5s. to 12s. 6d. |
| Anchors and chains ..... per cwt. | 14s.         | 12s. 6d.       | 13s.            |

II.—*Rate of Wages in the Shipbuilding Trades on the Thames, the Wear, and the Clyde in 1869.*

| Trades.                  | Thames. | Wear. | Clyde. |
|--------------------------|---------|-------|--------|
|                          | s. d.   | s. d. | s. d.  |
| Carpenters ..... per day | 7 —     | 5 —   | 4 6    |
| Joiners ..... "          | 6 —     | 4 6   | 4 6    |
| Platers ..... "          | 7 —     | 4 6   | 4 8    |
| Caulkers ..... "         | 6 —     | 5 —   | 3 8    |
| Riveters ..... "         | 6 —     | 4 2   | 3 8    |
| Painters..... "          | 5 6     | 4 6   | 5 —    |
| Riggers ..... "          | 5 6     | 6 —   | 4 4    |
| Sailmakers ..... "       | 5 —     | 5 —   | 4 2    |
| Boilermakers ..... "     | 6 —     | 4 3   | 5 8    |
| Engineers ..... "        | 6 —     | 4 3   | 4 4    |
| Turners..... "           | 6 —     | 4 3   | 5 4    |
| Pattern-workers ..... "  | 6 —     | 4 3   | 4 10   |
| Total .....              | 72 —    | 55 8  | 58 8   |

*Note.*—The Thames rate of 72s. is 22·72 per cent. higher than the Clyde rate, and 29·34 per cent. above the Wear rate.